Geospatial Technical Note

Loading Toolkit ArcMap Feature Classes to the Garmin Map76

Introduction

Field conservation personnel can download practice features from the National Conservation Practice data base to ArcMap using Toolkit, select and load the features to DNR Garmin 5.1.1, and upload the features to the Garmin GPS Map 76. Practice features are checked out of the data base while in a Toolkit session. Data check out automatically adds the data to the ArcMap document table of contents. The user then selects the layer or features within the layer and loads the data to the DNR Garmin data table. If the practice consists of point or lines/polygons converted to points then data will be tagged as waypoints, loaded to the DNR Garmin data table, and sent to the Map 76 as waypoints. If the practice is a line/polygon feature the data will be tagged as tracks and sent to the Map76 as a series of track points.

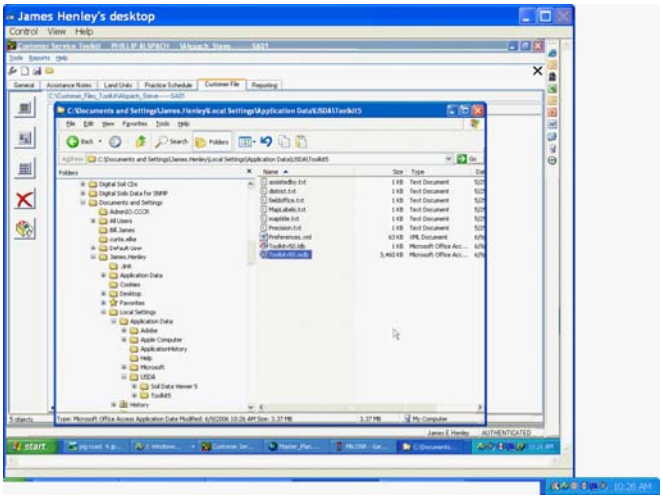
Practical benefits to the agency for uploading practice data to the Map 76

- Practices can be monitored for stability and effectiveness over time
- New employees can readily locate and visit practice features as needed

Procedures for uploading Toolkit practice data to the Map 76

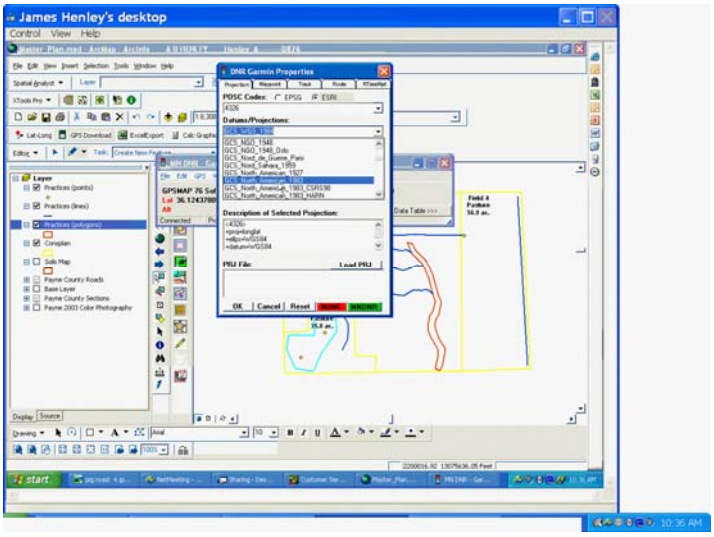
Step 1: Check Toolkit customer data out from the NCPDB

- ❑ Toolkit customer practice feature data is stored as a geodatabase feature class. It's downloaded from an ArcSDE (Spatial Database Engine) national geodatabase and stored locally as a personal geodatabase feature class.
- ❑ Spatial reference of the data is Geographic Coordinates, NAD 1983. The coordinates are referred to in ArcMap as GCS_North_American_1983
- ❑ Coordinates do not match the county level data (soils, Common Land Units (CLU), ortho imagery) – these are typically referenced to a UTM zone, NAD 1983. An example might read NAD_1983_UTM_Zone_14N.



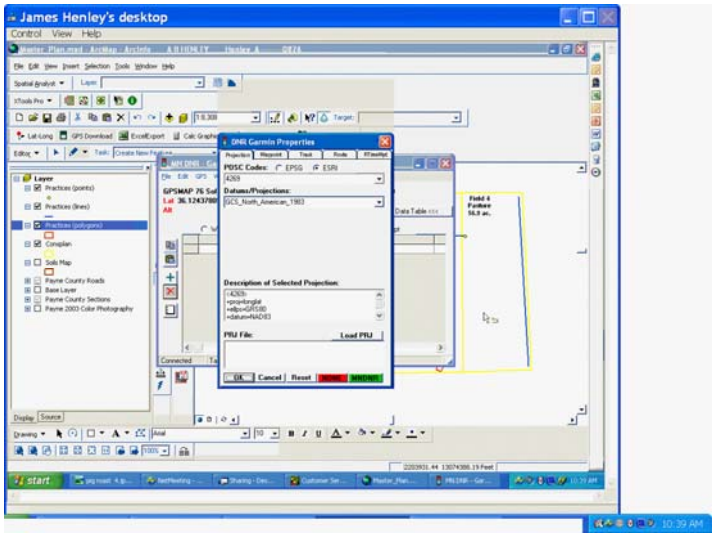
Step 2: Start the DNR Garmin software and set session projection

- ❑ If you are a frequent user your DNR Garmin session projection will probably be set to UTM.
- ❑ To ensure successful transfer of the data from the feature class to the DNR data table you will want to reset the projection.
- ❑ Click on *File > Set Projection.*
- ❑ Now click on the dropdown beneath "Datums/Projections" and scroll to, then click on "GCS_North_American_1983".



Shortcut: Type "4269" in the field directly below POSC Codes.

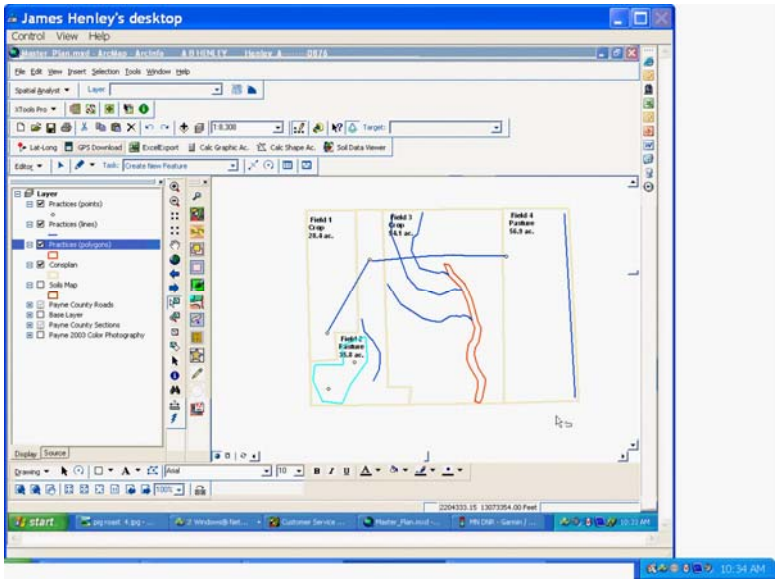
- ❑ Click on "OK" to close the dialogue.



You have not changed the spatial reference on the data. Instead you've provided DNR Garmin with enough information to import the Toolkit data accurately from your ArcMap session.

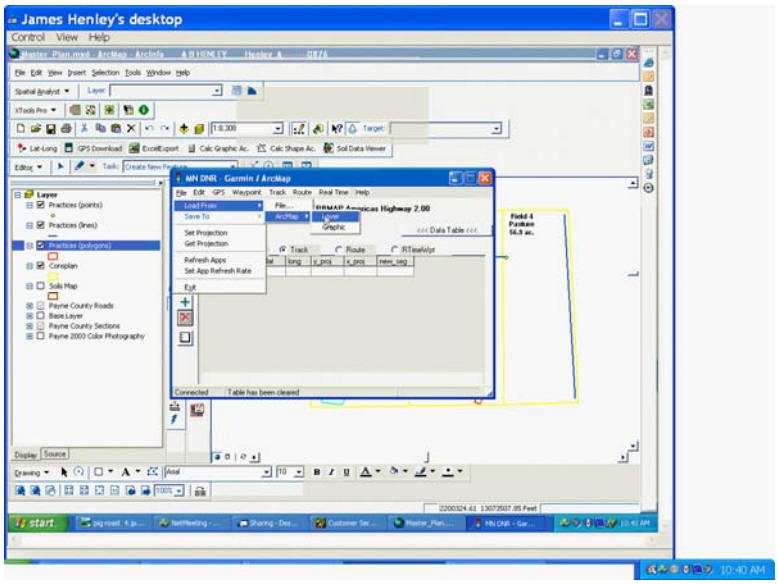
Step 3: Select a feature class layer or feature to load to the DNR data table

- ❑ Click and highlight the feature class you want to work with in the ArcMap table of contents.
- ❑ If you want to upload a subset of the layer you will want to use a selection to identify which features to send to the DNR data table. For most purposes interactive selection (click the select button on the Tools toolbar) will suffice.

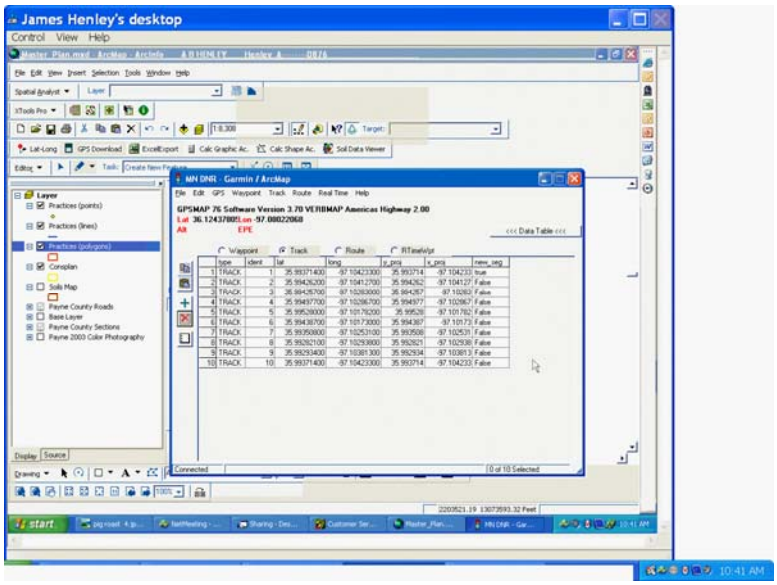


The feature selected will be highlighted. In this case we have selected a practice polygon.

- ❑ Now click on the DNR Garmin interface: "*File > Load from > ArcMap > Layer*".

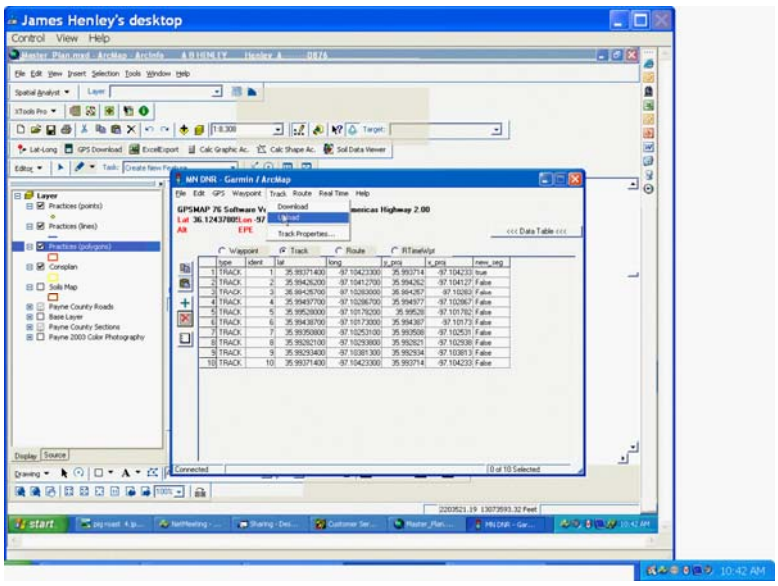


The data from the layer (coordinates) will be loaded to the DNR Garmin data table. If you see that the “lat” and “long” coordinates are not correct you will have to reset the projection (See Step 2) and try again.



Step 4: Upload the feature to the Map 76 receiver (Track example)

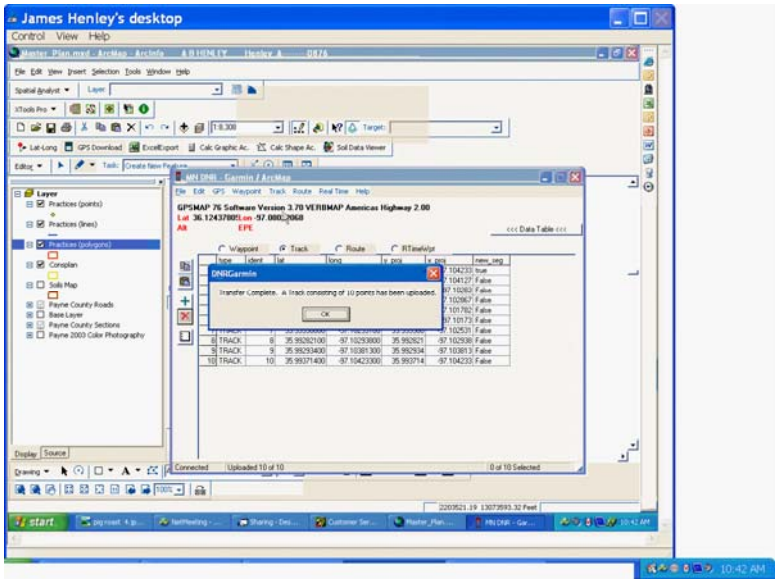
- ❑ On the DNR Garmin menu click “*Track* > *Upload*”.



Note: You must have the Map 76 turned on and set to Garmin mode.

The status bar will count off the number of points being sent to the receiver…

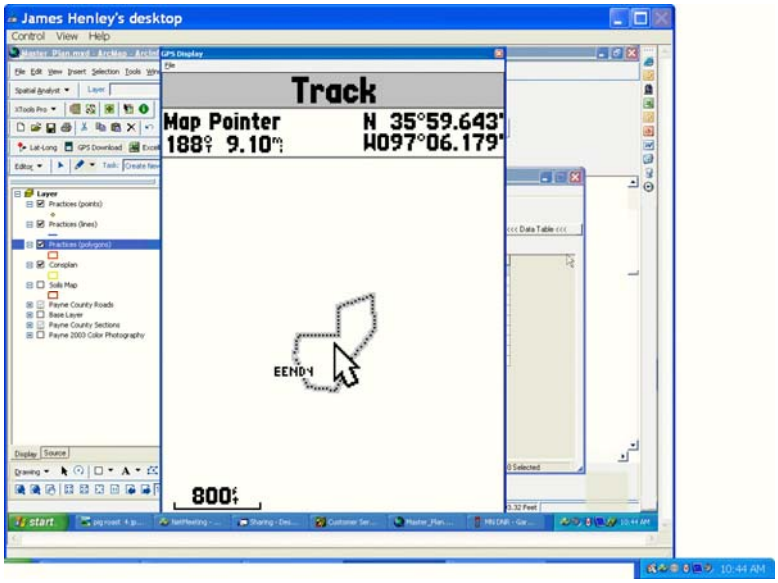
You will then receive a confirmation from DNR Garmin that the track points have been completely uploaded to the receiver:



- ❑ Click "OK" to close the message dialogue.

You will also receive a message on the Map 76 receiver. The message will clear itself after a few seconds.

- ❑ Verify that the track has been transferred by going to the Map 76 map page, scrolling to the general area of the feature, and scrolling/zooming until you see the feature.



The Map 76 feature is ready for in-field navigation.

Note and shortcut: *If you collect data in the field you will need to reset DNR Garmin back to your UTM settings. You can speed this up by typing in the following in the field directly beneath "POSC Codes" Zone 10=26910; Zone 11=26911; Zone 12=26912; Zone 13=26913; Zone 14=26914; Zone 15=26915; Zone 16=26916; Zone 17=26917; Zone 18=26918; Zone 19=26919. For Hawaii, Zone 4=26904, Zone 5=26905. Alaska Zones 2 through 7=26902, 26903, 26904, 26905, 26906, and 26907.*